

FEDERAL COMMUNICATIONS COMMISSION

445 12th Street, SW
TW-A325
Washington, D.C. 20554

SPECTRUM POLICY TASK FORCE)	
SEEKS PUBLIC COMMENT ON)	ET Docket No. 02-135
ISSUES RELATED TO COMMISSION'S)	(DA 02-1311)
SPECTRUM POLICIES)	

COMMENTS OF AIRWAVE RULES & REGULATIONS CO.

The AIRWAVE RULES & REGULATIONS CO. ("AIRWAVE") respectfully submits these Comments in response to the Commission's above-noted proceeding.* Established in 1987, AIRWAVE furnishes independent consulting and technical support services to radio frequency ("RF") product manufacturers, marketers, service providers, and private industry and governmental radiocommunication and telecommunication entities on matters relating to equipment authorizations and the licensing and use of the RF spectrum. AIRWAVE is a Registrant in the Commission Registration System (CORES), with offices located at Suite 401, 7830 Backlick Road, Springfield, Virginia 22150.

AIRWAVE support services have included participation in obtaining FCC licensing for real-time microwave video public safety traffic monitoring and security systems for the State of Georgia Department of Transportation, the State of California Department of Transportation, the State of Utah Department of Transportation, and the State of Illinois Department of Transportation. The Commission has charged the Spectrum Policy Task Force ("Task Force") with conducting a

* PUBLIC NOTICE, ET Docket No. 02-135, DA 02-1311, released June 6, 2002.

systematic evaluation of existing RF spectrum policies and making recommendations regarding possible improvements. The efforts of the Task Force will impact many diverse licensed radio service interests. By obtaining FCC authorizations in the public interest for such non-typical but crucial public safety and security systems, AIRWAVE believes it has gained experience that can add to the Task Force's record in this proceeding. We thank the Commission for this opportunity to discuss issues relevant to the development of equitable RF spectrum policies going forward.

By this Public Notice, the Task Force solicits comments and poses questions regarding numerous RF spectrum-related issues. AIRWAVE will be addressing several of the numbered issues concerning: Interference Protection, Spectral Efficiency, and Public Safety Communications. These topics have taken on new importance and significance since the events of September 11, 2001 and the Commission will recognize the critical importance of these issues to the new Homeland Security Organization and the public interest.

Interference Protection (Questions 10, 11, 12, and 13)

AIRWAVE concurs that the radio spectrum has become increasingly congested in many high population areas. Still, the Commission's ability to control interference between all appropriately weighted competing uses of the spectrum is a continuing major concern. Such intentions should guide the Task Force in developing more rational and equitable weightings of automatic justification for spectrum access, with specific regard to the public interest, public safety and security concerns.

Defining power limits and coordination procedures, alone, cannot provide sufficient control over interference. AIRWAVE suggests that, with special concern for the co-Primary* shared

* See FCC Rule Sections 2.104(d) and 2.105(c).

microwave frequency bands, transmitter antenna and receiver antenna parameters controlling RF signal polarity and antenna beamwidth measures should be included among the Commission's main interference reduction tools. For instance, many short-range terrestrial broadband (horizontal polarization, directional, narrow beamwidth) Fixed Public Safety Radio and Homeland Security services could be accommodated in an engineered overlay of terrestrial Primary narrowband (vertical polarization, omni-directional) Mobile Private Radio service spectrum.*

Further, AIRWAVE believes that the Task Force should re-examine Commission frequency assignment policies that result in competing services being given equal footing, or "rights" as licensees, where crucial Public Safety and Homeland Security uses may be involved. Radio spectrum used by Public Safety / Homeland security services should be protected from interference caused by any shared band uses.

New RF spectrum rights should be assigned. Overriding normal licensed radio spectrum coordination and compatibility factors, AIRWAVE urges that the Task Force give special consideration, and particular preference, to Homeland Security-related and Public Safety Radio Service interests. The Commission should assign such radio systems to a new higher Super-preferred status in all co-Primary service spectrum. There, one currently finds sharing between the Public Safety Radio Services and competing Private Radio Service systems mostly under equal footing.

With the goals of preserving and ensuring the safety and security of United States citizens, AIRWAVE suggests that the Commission establish such new Super-preferred status for Public Safety Radio Service licensees in RF spectrum now shared co-equally with Private Radio Service licensees. Such action would minimize RF interference to Homeland Security-related Public Safety Radio service licensees, enabling these entities to react more quickly and with greater

* For example, the 2450-2483.5 MHz co-Primary Fixed/Mobile Services Band

assurance to emergencies, when split-second timing and assured response are critical to the public interest.

Finding ways to separate and protect a Super-preferred status Public Safety / Homeland Security users' needs from other shared spectrum users should be a major goal of this investigation.

Today's automatic equal footing between public safety and private services should be addressed, immediately, and resolved in favor of satisfying matters of Homeland Security.

Spectral Efficiency (Questions 17, 18, 19, and 20)

The Commission correctly states that the ever increasing demand for spectrum will require increased spectrum efficiency. Further, the Commission states that, "...regulations should remain technologically neutral, without directly or indirectly determining the success or failure of particular technologies and services." We agree. However, AIRWAVE suggests that the Commission's framework for spectrum usage today may be skewed away from the public interest mandates represented by competing radio services. For example, nothing in the Commission's present waiver process* affords greater weight to Public Safety Radio service applicants in competition with Private Radio in co-Primary frequency spectrum. Homeland Security and Public Safety service interests should carry greater weight if they are to succeed.

Currently, the Commission seems to engage in technological limitations that cannot represent the needs of Homeland Security and Public Safety services going forward. Across the vastness of the United States, in small town rural America, when an applicant proposes a non-standard radio system, even one which was permitted under a previous allocation,** the applicant must be ready to face an uphill battle to justify its use of the RF spectrum. In order to attempt to fit in where

* See FCC Rule Section 1.925.

** See FCC Rule Section 2.102(b)(4).

presently denied access by the rules, the highly burdensome waiver process must be employed. As a result, the waiver process presents an effective, albeit unintended, deterrent for many applications involving viable uses of the shared radio spectrum.

Then there is the matter of who should judge the specific purposes for, or the immediate needs of, individual Homeland Security and Public Safety Radio system applications. Without relief, applicants today are in a quandary -- whether to engage the burdensome, time-consuming Commission waiver processes and take the chance that the Commission's application reviewer will second-guess incorrectly the needs of the applicant.* Or, alternatively, applicant could overlook the public interest priorities of its local community by spending more for higher cost, less reliable transmission systems, and accepting lesser quality system performance, in order to meet the Commission's frequency use standards that are designed for altogether different conditions.

AIRWAVE believes that the degree of population density should be a major factor in determining efficient RF spectrum usage. Consequently, when a frequency band is vacant or lying fallow in a given area, Commission policy for efficient frequency usage should automatically consider alternative uses of that spectrum, without engaging the burdens of the waiver process.

If the Commission should insist that waivers are necessary, AIRWAVE suggests that a common sense approach should govern its analysis of spectrum choices, leaning more toward practical, local solutions to RF spectrum access problems, especially at microwave frequencies, and less toward maintaining spectrum vacancy, where the Commission keeps frequencies unused while it awaits applicants for systems meeting its new standards or technological improvements that may never appear.

* Incidentally, although it would greatly shorten the waiver process, the Commission has no procedure for its reviewers to automatically contact an applicant to answer questions about a proposed non-standard radio system.

What's more, in all cases, when RF spectrum sharing is involved, preference should be given to crucial public safety and Homeland Security uses of the spectrum, and the Commission's waiver processes should be reserved for use in extreme cases involving obvious harmful interference situations. AIRWAVE believes that a special justification by Homeland Security and Public Safety Radio services should not be required if the purposes of a proposed system are in conformance with generally accepted, or previously accepted,^{*} uses of the shared radio spectrum.

Public Safety Communications (Questions 22, 23, and 24)

AIRWAVE's comments have emphasized that Homeland Security and Public Safety services must be afforded special consideration through a Super-preferred status in the shared co-Primary RF spectrum. Though such preference is not stated, the Commission here suggests that, "...the spectrum needs of these specialized users are increasing;" and it seeks, "...to best preserve and protect the ability of public safety, public service and critical infrastructure entities to do their important jobs in light of the increasing spectrum demands for these and all other services."

As a first step, the Commission should coordinate with the National Telecommunications and Information Administration (NTIA), the Office of Science and Technology Policy (OSTP), and the National Security Council (NSC) to identify the needs of the Federal Government for Homeland Security capabilities, in conjunction with appropriate state and local level Public Safety Radio Services.^{**}

Secondly, the Commission should play a lead roll in providing the necessary resources to accommodate the expected RF spectrum needs involving the combination of Homeland Security

^{*} See FCC Rule Section 2.102(b)(4).

^{**} See FCC Rule Sections 2.102 and 2.102(c); and CFR Title 47, Chapter II and Chapter III.

and Public Safety Radio services. AIRWAVE suggests that the designated Public Safety Radio Service frequency coordinators have up-to-date knowledge of frequency usage, and accessible frequency databases, which could be employed in helping to determine the acceptability of proposed new joint Homeland Security / Public Safety radio systems.

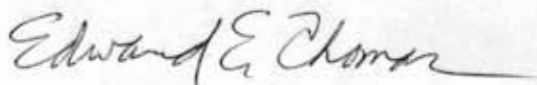
Thirdly, as noted above, the Commission should consider frequency sharing approaches that do not result in unwanted harmful interference to in-band users. In addition to frequency coordination methods defined by the Commission, antenna directionality (beamwidth) and cross-polarization mechanisms should become regular tools for the allocation of, or placement of, non-standard radio systems into shared band frequencies.

Conclusion

AIRWAVE appreciates the significant challenges the Commission has undertaken in this proceeding, as well as, the enormity of the tasks it has assigned to its Spectrum Policy Task Force. We wish the Commission much success, and hope that this contribution may assist the Spectrum Policy Task Force in achieving its important goals.

Respectfully submitted,

AIRWAVE RULES & REGULATIONS CO.

A handwritten signature in cursive script, reading "Edward E. Thomas".

July 08, 2002

Edward E. Thomas, President
7830 Backlick Road, Suite 401
Springfield, Virginia 22150